LAKE SUPERIOR
NATIONAL ESTUARINE
RESEARCH RESERVE

RESTORING AND PRESERVING WETLAND FUNCTIONS: A WATERSHED APPROACH

Stay in touch

The NERRS Science Collaborative is committed to sharing information about the projects we fund in the most effective way we can. Updates about this project will be communicated through nerrs.noaa.gov, webinars, conferences, and meetings. If you would like to stay in touch with this project, contact our program coordinator, Cindy Tufts at cindy.tufts@unh.edu

For information about the applied science, contact Andy Robertson, project manager, St. Mary's University of Minnesota Geospatial Services, at 507.457.8746 or aroberts@smumn.edu

For information about the collaborative aspect of this project, contact Sue O'Halloran, coastal training program coordinator, Lake Superior NERR, at 715.392.3141, or sohallor@uwsuper.edu

What's happening?

A team from the Lake Superior National Estuarine Research Reserve (NERR) in Wisconsin has received $294,523 to develop a wetland conservation plan that helps local decision makers identify and prioritize future wetland restoration sites in Douglas County watersheds.

The team is using collaborative learning techniques to engage local government officials, natural resource managers, and businesses in Douglas County in a planning process that integrates wetland science, geospatial tools, and watershed planning best practices. Ultimately, their goal is to develop a wetland conservation plan that communities can use to reduce flooding and related damage, regulate stream flows, and remove pollutants from stormwater runoff.

Why this project?

In recent years, land use change and wetland loss has impacted the ability of estuaries to reduce flooding and mitigate storm damage in Wisconsin's Douglas County. The loss of these valuable services was apparent in the aftermath of severe storm events that caused significant flooding and damage in 2012. Projected increases in the frequency of powerful storms due to climate change are likely to exacerbate these impacts. Strategic wetland protection and restoration could help address these issues.

Pokegama Bay coastal wetland in Douglas County within the Lake Superior National Estuarine Research Reserve.

However, few Wisconsin coastal communities have created plans to maximize the protection that healthy wetlands can provide. To develop these plans, decision makers need better access to wetland monitoring data, decision-support tools, and training. They also need methods to assess the ecological and economic benefits of wetlands and then communicate this value to stakeholders who may not understand the services wetlands provide and perceive these natural resources as a nuisance.

This project is combining science, participatory process, and public outreach to convene a watershed committee of local stakeholders to create and use a wetland assessment that identifies and prioritizes future wetland restoration sites in Douglas County watersheds and integrates these sites into current land use and conservation plans.

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Headwater wetlands in the Middle River watershed, Douglas County, Lake Superior basin (left). Workshop participants discuss and edit a draft situation map of stakeholder perceptions and information gaps regarding wetland mitigation issue (right).

About the funder

The NERRS Science Collaborative puts Reserve-based science to work for coastal communities coping with the impacts of land use change, stormwater, nonpoint source pollution, and habitat degradation all in the context of a changing climate. Our threefold approach to connecting science to decision making includes:

• Using a competitive RFP, we fund projects that incorporate collaboration and applied science to address coastal management problems identified as priorities for Reserves and their communities.

• Transfer of knowledge: Through our transfer program, the science we fund is shared throughout the NERRS and the communities they serve.

• Graduate education: Through TIDES (Training for the Integration of Decision Making and Ecosystem Science), a non-thesis Master's degree program hosted by the University of New Hampshire, we train the next generation of professionals to link science to coastal decision making.

The program operates by a cooperative agreement between the University of New Hampshire (UNH) and the National Oceanic and Atmospheric Administration.

Learn more at....
nerrs.noaa.gov/ScienceCollaborative.aspx

How will this project work?

This project team is using a collaborative learning process to engage local stakeholders, scientists, and regulators in the development of a wetland conservation and restoration plan that is both science based and rooted in community values. To this end, they have convened a watershed planning committee composed of Douglas County Land Conservation Department, Northflow Consulting, Wisconsin Wetlands Association, St. Mary's University of Minnesota, Wisconsin Department of Natural Resources, University of Wisconsin-Extension, and The Nature Conservancy to advise the project.

The team is developing a series of training workshops that aim to increase stakeholder knowledge of wetland functions, land use and watershed planning, and wetland mitigation policies for members of the watershed planning committee and the broader audience of stakeholders in Douglas County.

The project has also convened a technical advisory team to address issues specific to the geography of the Lake Superior Basin. As part of their work, they are completing a landscape-level functional analysis that uses the most current wetland inventory for Douglas County. These wetlands will be mapped, prioritized and integrated with current land use and conservation plans.

The team is communicating this information to the watershed planning committee and other stakeholders through facts sheets; the Lake Superior NERR website (lsnerr.uwex.edu); and the Wisconsin Wetlands Association website (wisconsinwetlands.org) and newsletter.

This team's ultimate goal is to benefit all decision makers and stakeholders on this issue by providing a process for communities to strategically locate future wetland projects in a way that maximizes floodwater attenuation services and provides guidance and pre-approved restoration project locations to regulators and others who must meet wetland mitigation requirements.

The team will share the plan and lessons learned from the planning process through presentations at regional and state meetings and the network of the National Estuarine Research Reserve System.

A partnership with the University of Wisconsin-Madison's Nelson Institute for Environmental Studies has provided graduate student support for stakeholder interviews, development of a situation map to describe the perceptions of stakeholders, and evaluations that document progress being made towards project goals.